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(54) **MODULAR PACK**

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31, 2017.

(57)

ABSTRACT

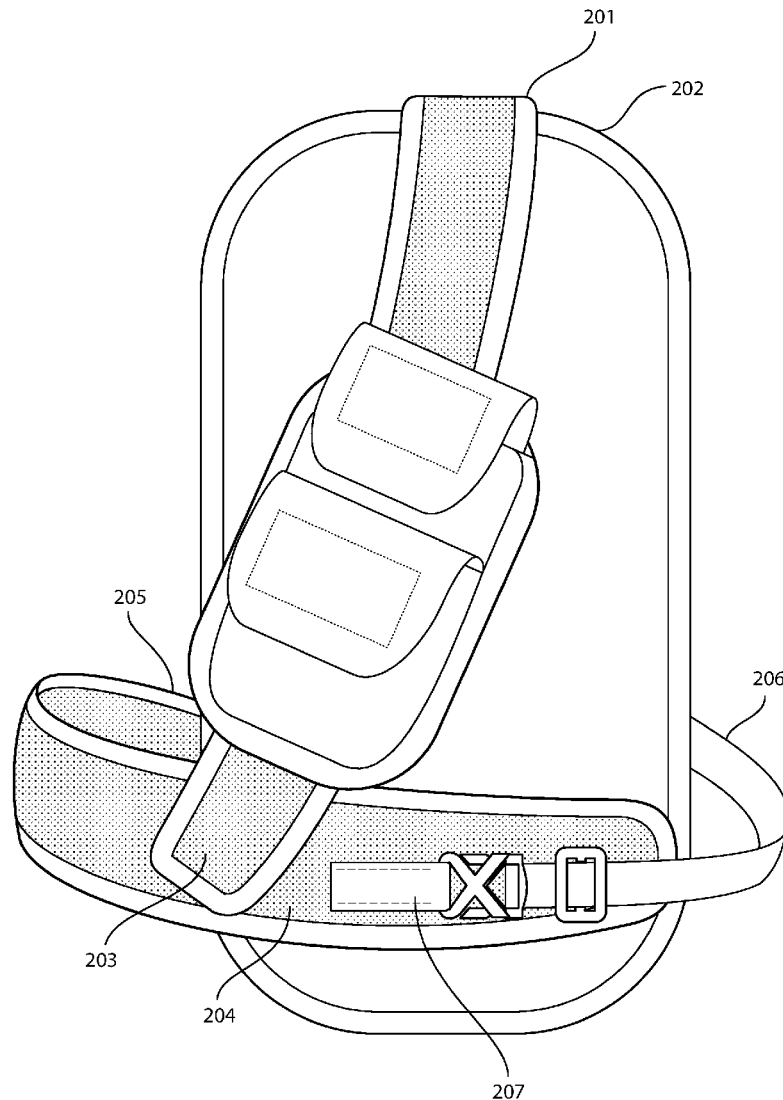
This invention provides for bags and packs useful for sporting activities such as hiking, fishing and hunting. The bags and packs are modular which are customizable, sizable and adjustable to meet individual needs. Modular pockets are further added to accommodate different equipment.

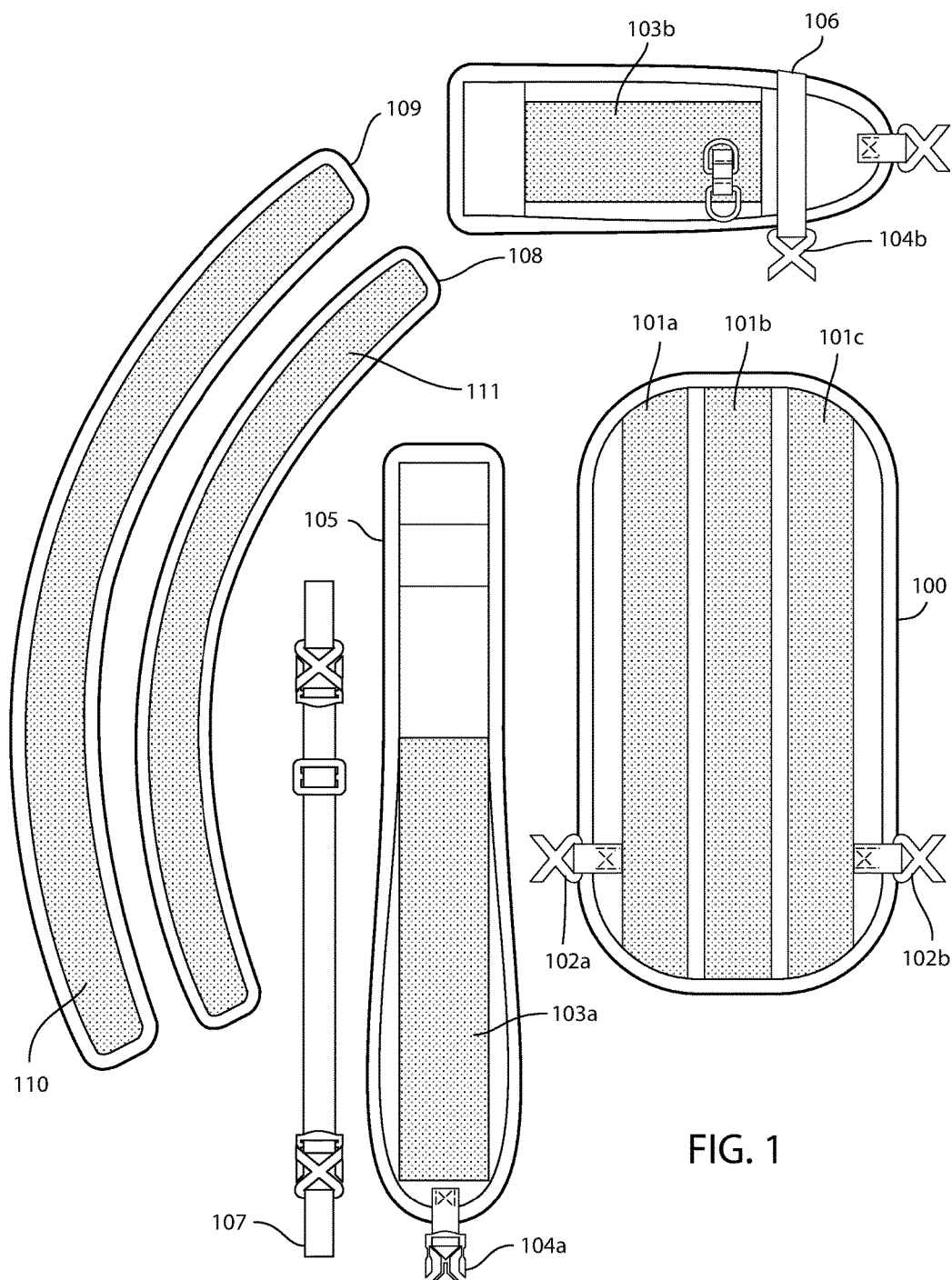
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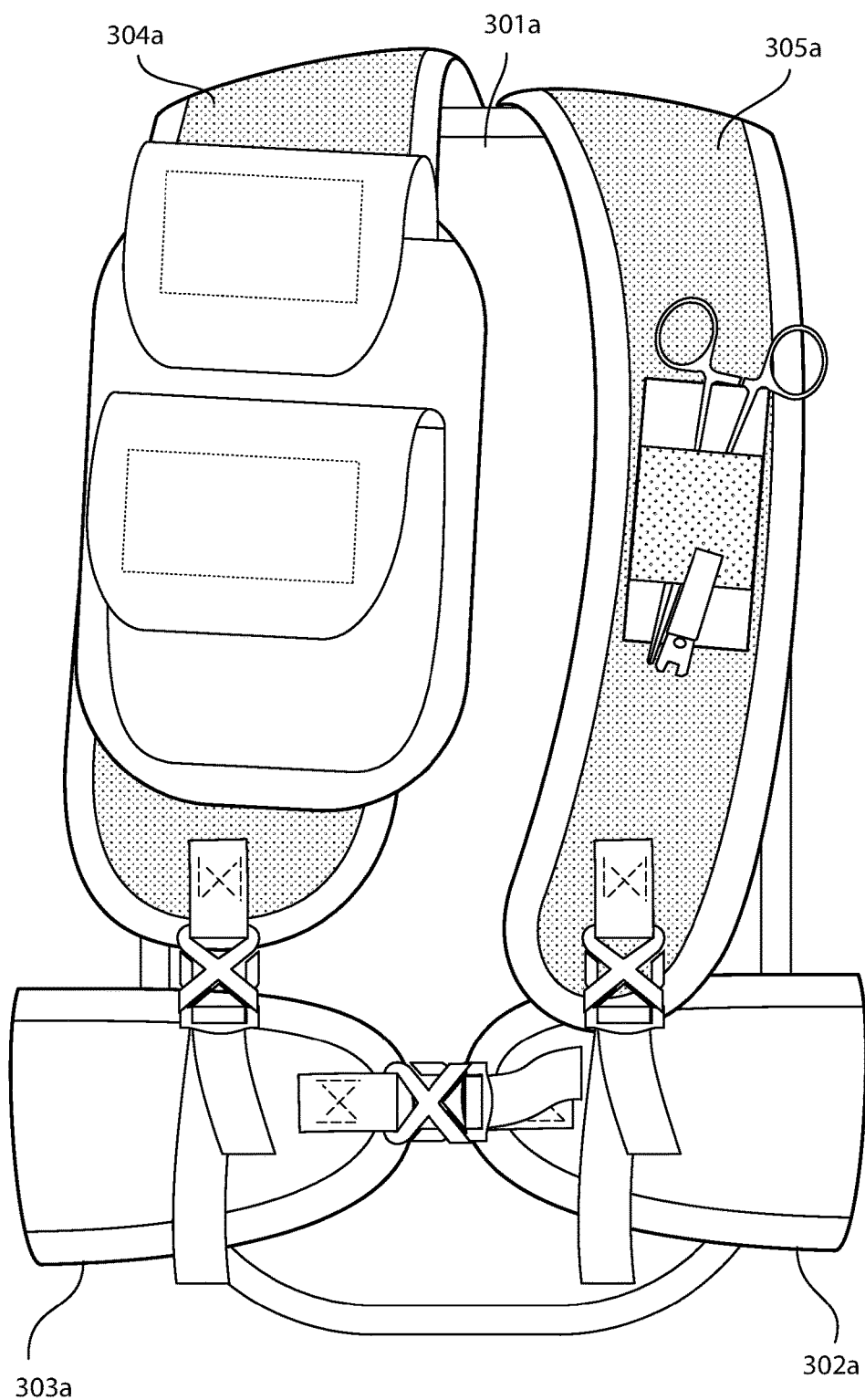


FIG. 3A

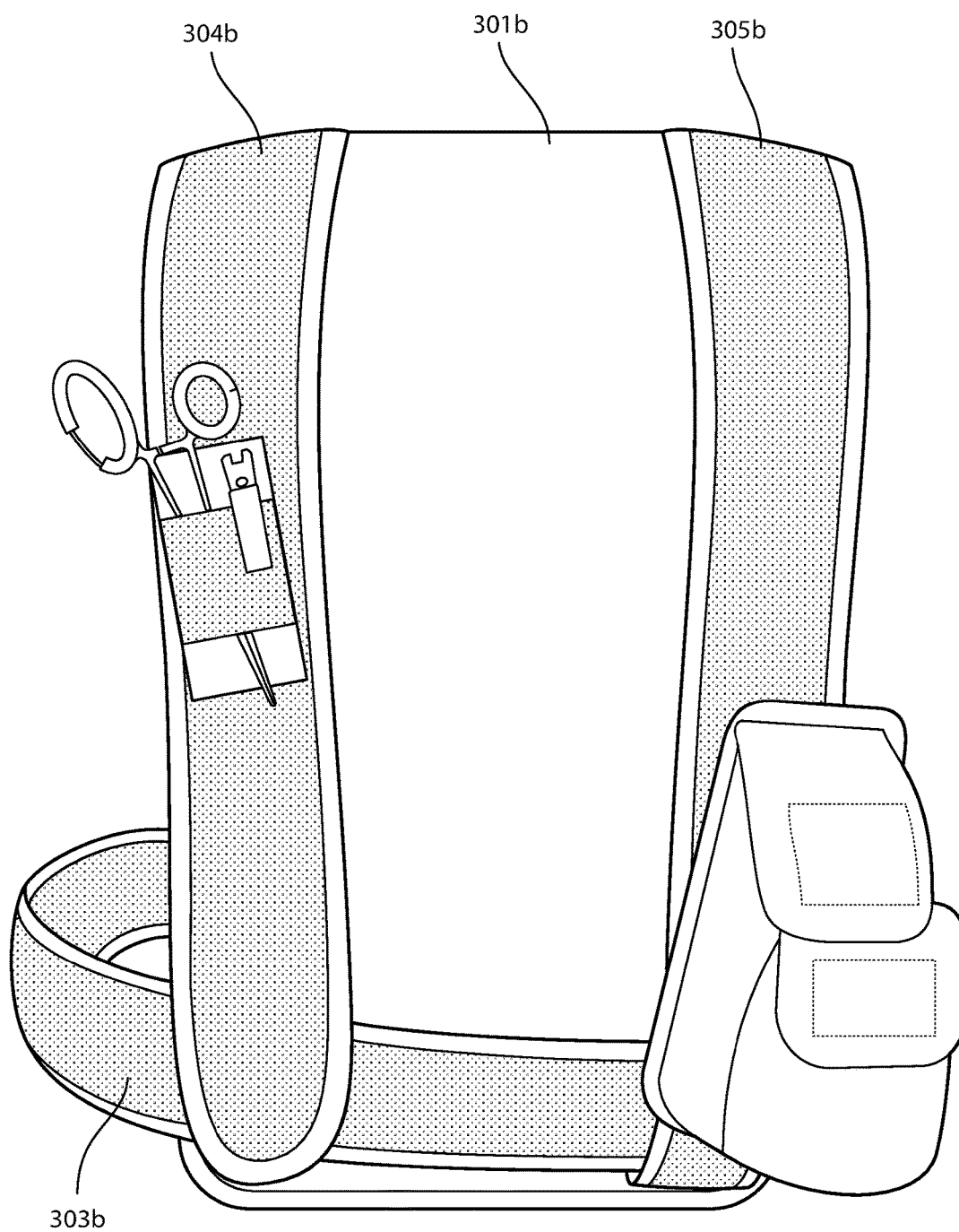


FIG. 3B

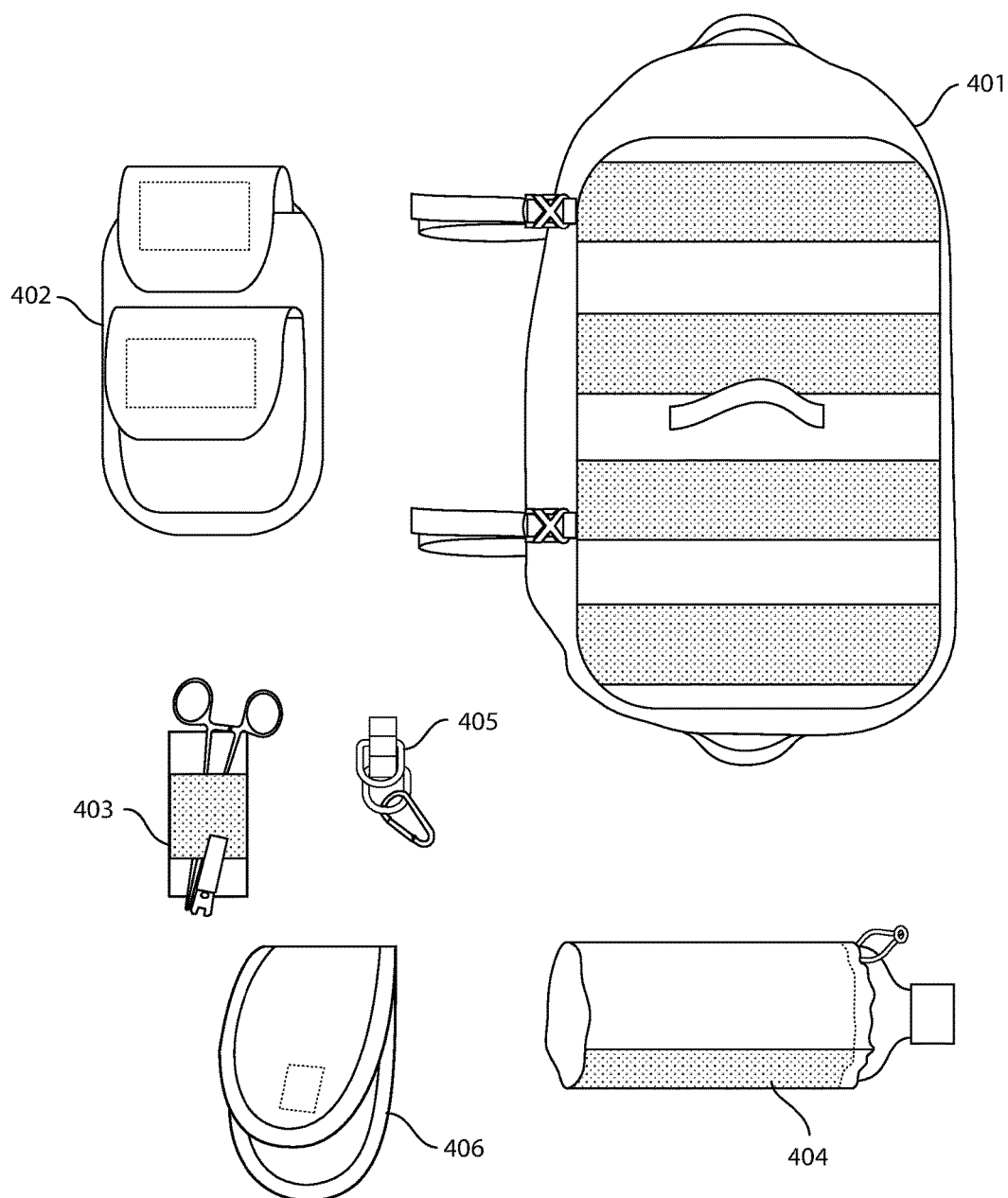


FIG. 4

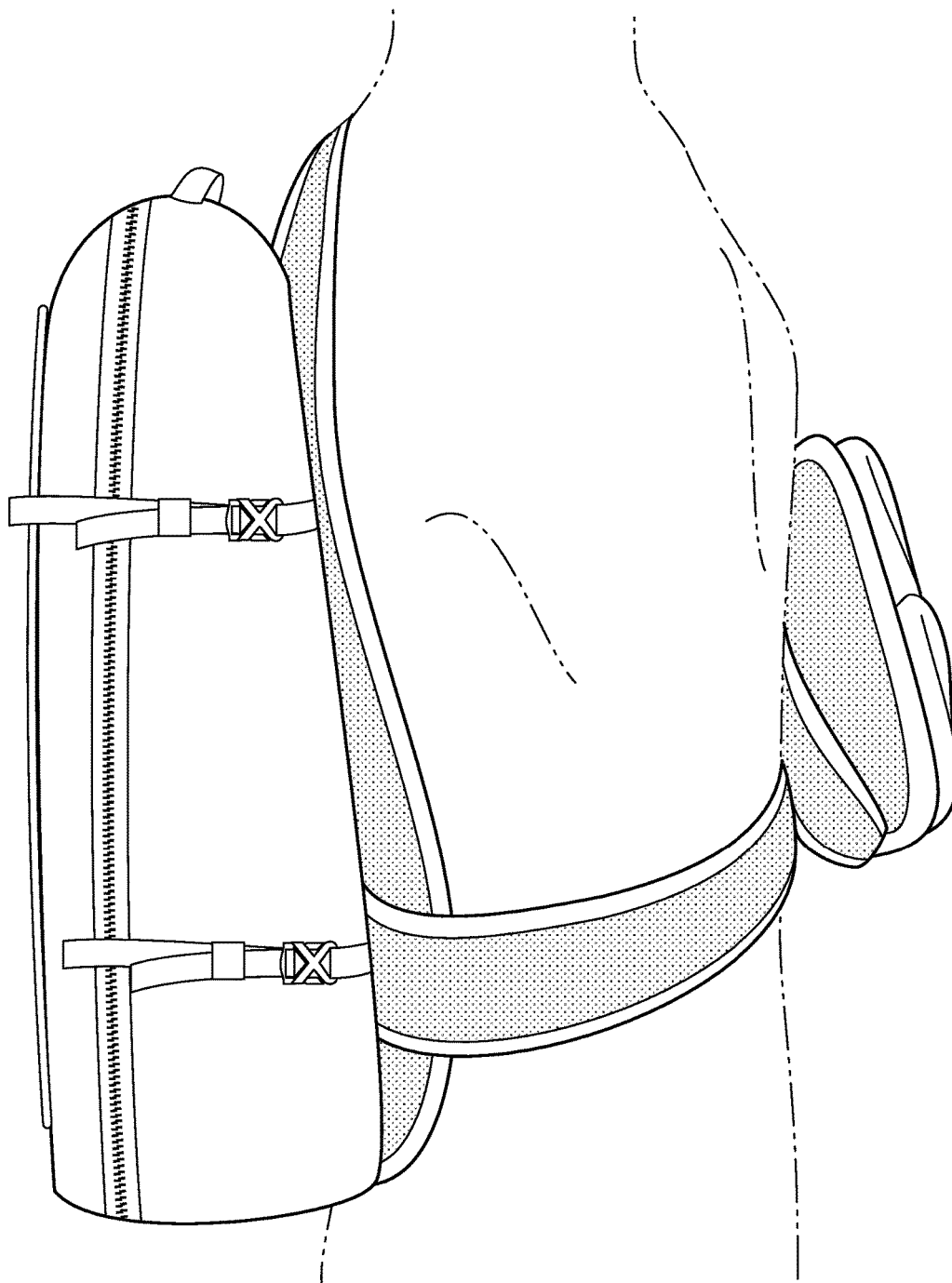


FIG. 5

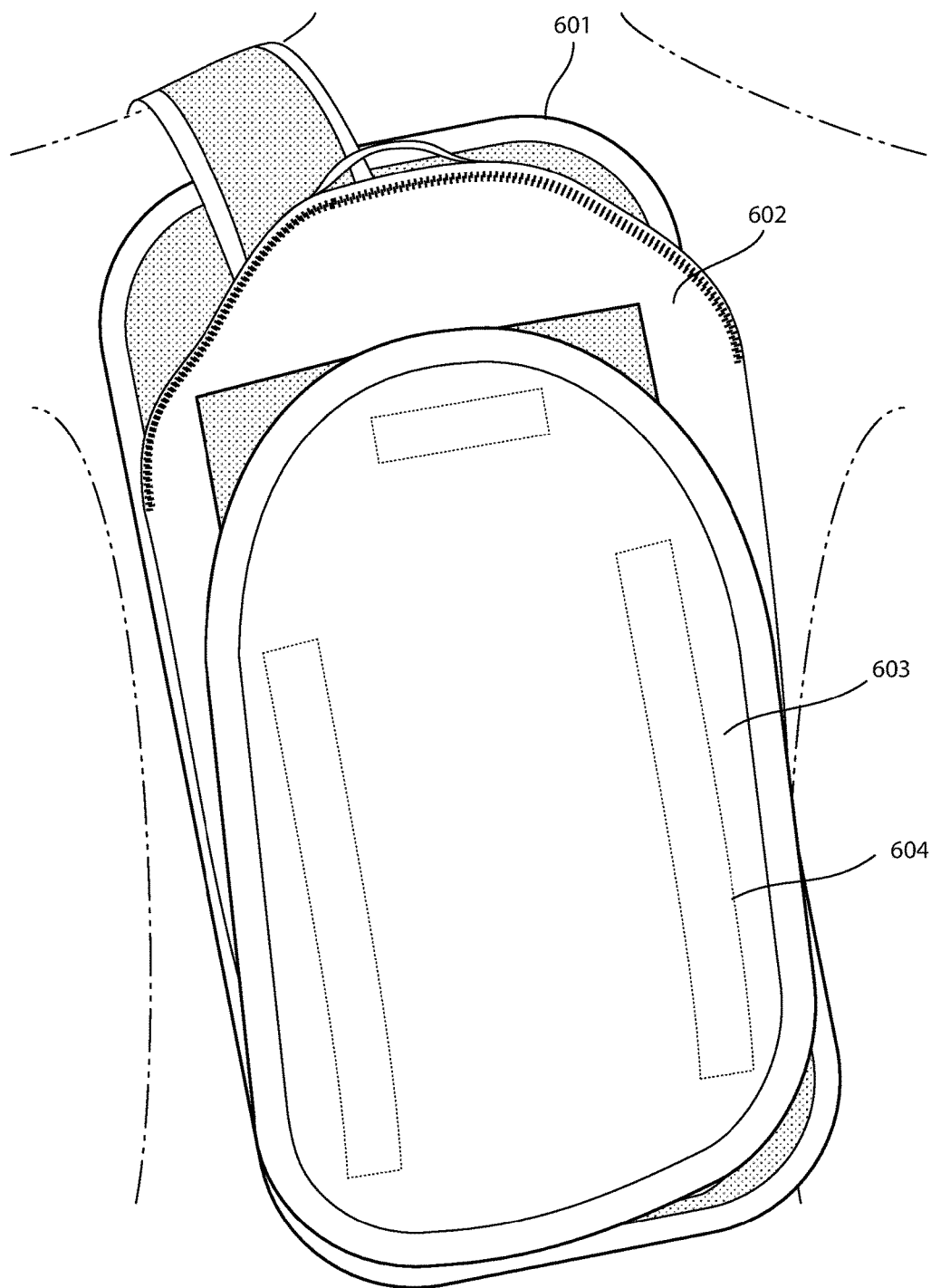


FIG. 6

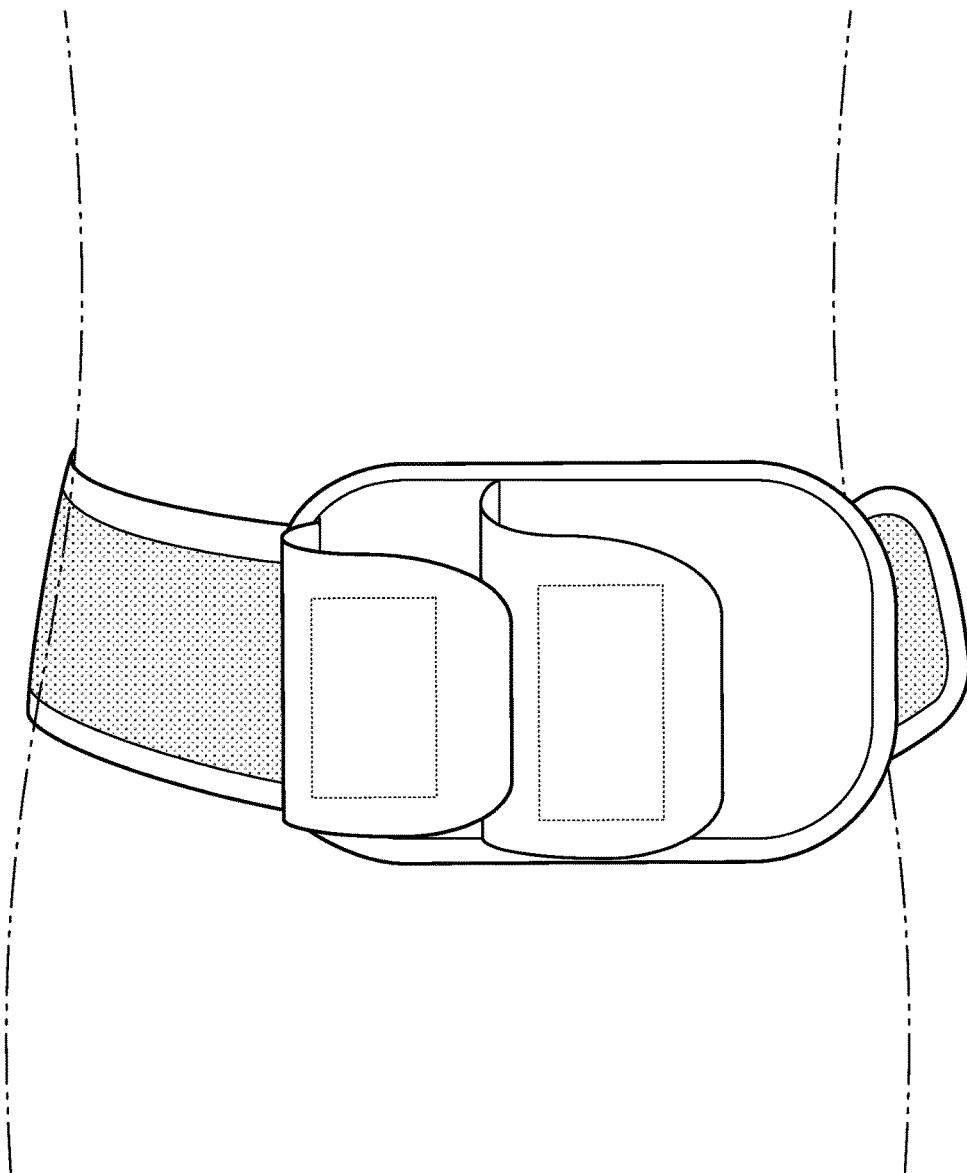


FIG. 7

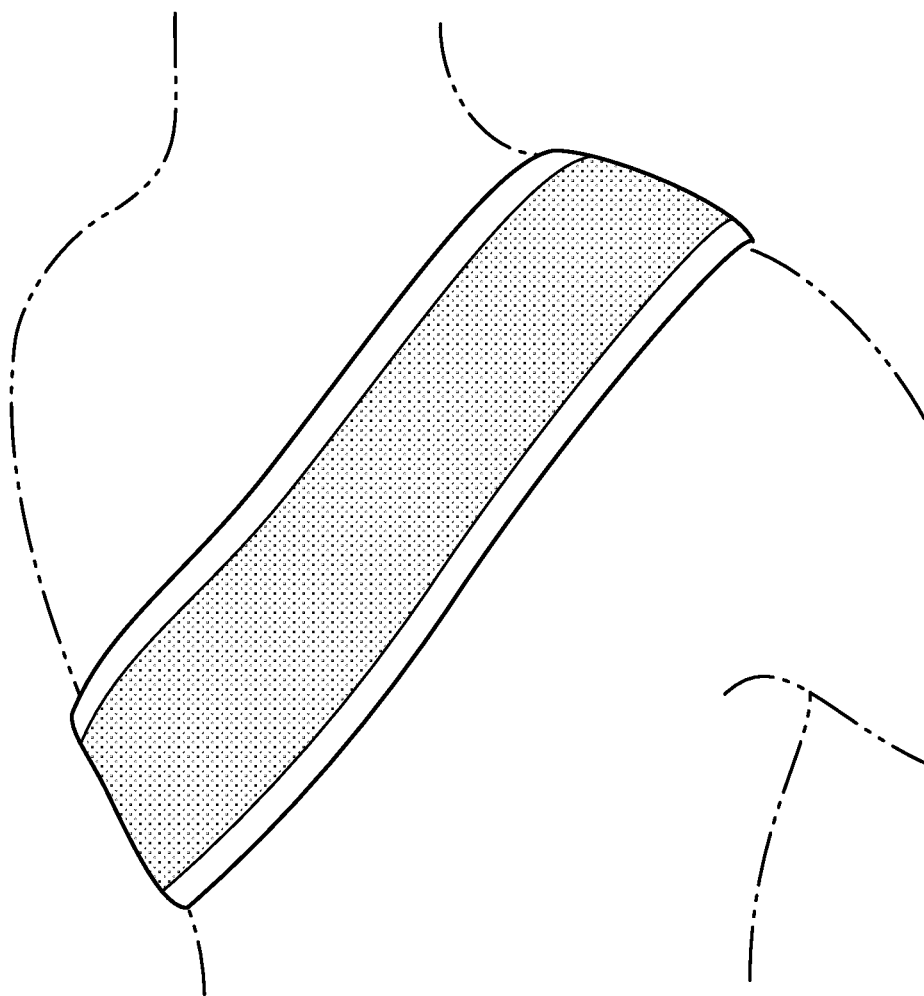


FIG. 8

MODULAR PACK

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application includes a claim of priority under 35 U.S.C. § 119(e) to U.S. provisional patent application No. 62/539,286 filed Jul. 31, 2017, the entirety of which is hereby incorporated by reference.

FIELD OF INVENTION

[0002] This invention relates to bags and packs useful for sporting activities such as hiking, fishing and hunting.

BACKGROUND

[0003] All publications herein are incorporated by reference to the same extent as if each individual publication or patent application was specifically and individually indicated to be incorporated by reference. The following description includes information that may be useful in understanding the present invention. It is not an admission that any of the information provided herein is prior art or relevant to the presently claimed invention, or that any publication specifically or implicitly referenced is prior art.

[0004] Fishing, hiking and hunting packs currently available rarely come close to suiting a user's needs. Many people purchase expensive gear only to retrofit it themselves to try to suit their own needs. Accordingly, there is a need in the art for a modular pack that is customizable, sizable and adjustable to meet individual needs.

BRIEF DESCRIPTION OF THE FIGURES

[0005] Exemplary embodiments are illustrated in referenced figures. It is intended that the embodiments and figures disclosed herein are to be considered illustrative rather than restrictive.

[0006] FIG. 1 depicts in accordance with various embodiments of the present invention, exemplary components of the base of the modular bag system, including slings, sides, and a back.

[0007] FIG. 2 depicts in accordance with various embodiments of the present invention, a sling style of the modular bag system.

[0008] FIG. 3A-3B depicts in accordance with various embodiments of the present invention, backpack styles of the modular bag system.

[0009] FIG. 4 depicts in accordance with various embodiments of the present invention, exemplary modular pockets and modular additions for the modular bag system.

[0010] FIG. 5 depicts in accordance with various embodiments of the present invention, a side view of a modular bag system with a modular pocket on the back and a modular pocket on the front.

[0011] FIG. 6 depicts in accordance with various embodiments of the present invention, a back view of a modular bag system with a modular pocket on the back and a cover over the modular pocket.

[0012] FIG. 7 depicts in accordance with various embodiments of the present invention, a waist pack style of the modular bag system.

[0013] FIG. 8 depicts in accordance with various embodiments of the present invention, a sling style modular bag system wherein one sling component is removably attached

to itself to form a sling, or two sling components are removably attached to each other to form a sling.

DESCRIPTION OF THE INVENTION

[0014] All references cited herein are incorporated by reference in their entirety as though fully set forth. Unless defined otherwise, technical and scientific terms used herein have the same meaning as commonly understood by one of ordinary skill in the art to which this invention belongs.

[0015] One skilled in the art will recognize many methods and materials similar or equivalent to those described herein, which could be used in the practice of the present invention. Indeed, the present invention is in no way limited to the methods and materials described. For purposes of the present invention, the following terms are defined below.

[0016] "Removably attached" as used herein with respect to various components of the modular bag system refers to the ability of a component to be attached and removed by the user via use of fasteners, as further described herein.

[0017] Described herein is a modular pack that can be used for a variety of purposes, including but not limited to fishing, hiking and hunting.

[0018] One unique feature, among others, of the present invention is its base (herein also referred to as a pod). In one embodiment, the base comprises a back, two sides and a front piece for a sling style pack. In another embodiment, the base comprises a back, two sides, and two front pieces for backpack style pack. In another embodiment, the base comprises two sling pieces for a sling style pack. In another embodiment the base comprises one sling piece for a waist style pack.

[0019] The pieces are in a variety of sizes to fit small to large body builds. The pieces are also adjustable to fit loose or snug depending how an individual wants to wear it, and allow for adjusting for more or thicker clothing in winter and less or thinner clothing in summer.

[0020] Another unique feature is the modular pockets/additions (herein also referred to as mods) that can be added to accommodate for different equipment. These mods can be attached anywhere on the base system components (pods) to make the pack fully customizable. The modular bag system is further described in more detail below.

[0021] Various embodiments of the present invention provide for a modular bag system, comprising: a base; and one or more modular pockets.

[0022] In one embodiment, the base comprises a back component, a first side component, a second side component, and a first sling component. In this embodiment, the modular bag system can be worn as a sling.

[0023] As seen in FIG. 2, the top end of the first sling component 201 is removably attached to the top end of the back component 202. The bottom end of the first sling component 203 is removably attached to the distal end of the first side component 204; or it can be attached to the distal end of the second side component. In a non-limiting example, the bottom end of the first sling component is removably attached to the distal end of the first side component or the distal end of the second side component via fabric hook and loop (e.g., VELCRO fabric hook and loop). In an alternative embodiment, the bottom end of the first sling component is removably attached to the distal end of the first side component or the distal end of the second side component via a further fastening system; for example,

webbing and buckles. Distal end refers to the end of the side component that does not attach to the back component.

[0024] The proximal end of the first side component **205** removably attaches to the bottom portion of the back component. The proximal end of the second side component **206** removably attaches to the bottom portion of the back component. While these are shown to be removably attached to the bottom portion of the back component, it is not required to be attached to the bottom portion of the back component. For example, a short-waisted individual may choose to attach the side portions closer to the middle portion of the back component. In various embodiments, the first side component is removably attached to the second side component **207**.

[0025] In another embodiment, as seen in FIG. 3A, the base comprises a back component **301a**, a first side component **302a**, a second side component **303a**, a first sling component **304a**, and a second sling component **305a**. In this embodiment, the modular bag system can be worn as a backpack.

[0026] In another embodiment, as seen in FIG. 3B, the base comprises a back component **301b**, a first side component, a second side component **303b**, a first sling component **304b**, and a second sling component **305b**. In this embodiment, the modular bag system can also be worn as a backpack. As shown in this example, the side components can be the same as the sling components; for example, the uses for the components can be interchangeable.

[0027] In various embodiments, the components are removably attached in a fashion similar to the sling style. In this embodiment, the top portion of second sling component is also removably attached to the top end of the back component, and the bottom portion of the second sling component is removably attached to the distal end of the first side component or the distal end of the second side component. Alternatively, the top portion of the second sling component is removably attached to the top of the first sling component. It would be understood that one typically would not attach the first and second sling components to the same side component. In this embodiment, the side components would not typically be attached to each other. In an alternative embodiment, a piece of webbing is removably attached to each of the side components or sling components. This can add an extra strap to help keep the backpack on.

[0028] The components of the base comprise fasteners to enable each component to be removably attached to another component. Examples of fasteners include, but are not limited to a fabric hook and loop type fastener (e.g., VELCRO hook and loop fastener), buckles, clasps, and D-rings. Webbing can be used as part of a fastener system.

[0029] FIGS. 2 and 3A-3B show VELCRO hook and loop fastener and webbing and buckle fasteners at the connection points, but it is understood that these figures illustrative and are not limiting. Different fasteners can be utilized on those connection points.

[0030] The one or more components of the base of the modular bag system (e.g., back component, the first side component, the second side component, the first sling component, the second sling component) comprises a fastener adapted for removably attaching the one or more modular pockets and/or additions onto the base.

[0031] In various embodiments, back component comprises one or more a fabric hook and loop type fastener (as

seen in FIG. 1, as **101a**, **101b** and **101c**) (e.g., either the hook side or the loop side). This allows for the modular pockets and/or additions to be removably attached to the back component **100**, as well as the sling(s) (**105**, **108**, **109**) or side(s) (**106**, **107**, **108** or **109**) to attach to the back component **100**. In various embodiments, the sling and the sides can be used interchangeably. As shown in FIG. 1, component **108** and **109** either be used as a sling component, or a side component. In various embodiments, the back component can further comprise a second type of fastener **102a** and **102b**. This can allow for added security of keeping a modular pocket attached, or it can allow for buckle and webbing system to be used as one or both of the sides, or one or both of the slings.

[0032] In various embodiments, the shape of the back component is generally rectangular. “Generally rectangular” as used herein means that one of ordinary skill in the art would have recognized that an object resembles a rectangular shape, while the object may not be perfectly rectangular. For example, as seen in FIG. 1, the back component **100** has a generally rectangular shape, even though the corners are rounded. Other shapes may also be used, for example, oval, circle, square, generally square, and hexagonal.

[0033] In various embodiments, the first sling component and/or the second sling component comprises one or more a fabric hook and loop type fastener (**103a**, **103b**, **110**, **111**) (e.g., either the hook side or the loop side) to allow for the modular pockets to be removably attached to the sling components. In various embodiments, the first sling component and/or the second sling component can further comprise a second type of fastener **104a**. In various embodiments, the second type of fastener can serve as added security for keeping a modular pocket attached. In other embodiments, the second type of fastener can serve as an additional attachment point for a different modular pocket, or an attachment point to the back component.

[0034] In various embodiments, the shape of the sling is generally rectangular. “Generally rectangular” as used herein means that one of ordinary skill in the art would have recognized that an object resembles a rectangular shape, while the object may not be perfectly rectangular. For example, as seen in FIG. 1, the sling **105** has a generally rectangular shape, even though one end has approximately 90 degree angles and the opposite end is rounded. Further, the end with the approximately 90 degree angles is slightly narrower than the rounded end. Approximately 90 degree angle, as used herein refers to angles that can range from 85 degrees to 95 degrees, and preferably 86-94, 87-93, 88-92, 89-91, 89.5-90.5 degrees.

[0035] In various embodiments, the shape of the sling resembles a paddle (not shown). In this embodiment, one end will be narrower than the other end and the wider end will be at least twice as wide as the narrower end.

[0036] In various embodiment, the shape of the sling **108** or **109** is curved as shown in FIG. 1. Also as shown in FIG. 1, the fabric hook and loop type fastener **110** or **111** runs along substantially the entire sling **109** or **108**, respectively. “Substantially” as used in this particular context refers to covering 75%, 80%, 85%, 90%, 95%, 96%, 97%, 98%, 99% or more of one side of the sling **108** or **109**.

[0037] In various embodiments, the first side component and/or the second side component comprises one or more a fabric hook and loop type fastener (e.g., either the hook side

or the loop side) to allow for the modular pockets to be removably attached to the side components. In various embodiments, the first side component and/or the second side component can further comprise a second type of fastener. In various embodiments, the second type of fastener can serve as added security for keeping a modular pocket attached. In other embodiments, the second type of fastener can serve as an additional attachment point for a different modular pocket, or an attachment point to the back component.

[0038] In various embodiments, the shape of the side component is generally rectangular. “Generally rectangular” as used herein means that one of ordinary skill in the art would have recognized that an object resembles a rectangular shape, while the object may not be perfectly rectangular. For example, as seen in FIG. 1, the side component **106** has a generally rectangular shape, even though one end is has approximately 90 degree angles and the opposite end is rounded. Further, the end with the approximately 90 degree angles is slightly narrower than the rounded end. Approximately 90 degree angle as used herein refers to angles that can range from 85 degrees to 95 degrees, and preferably 86-94, 87-93, 88-92, 89-91, 89.5-90.5 degrees. The side component will typically be shorter than the sling component.

[0039] In other embodiments, the side component **107** is a strap with one or two fastener(s). An example of this is seen in FIG. 1. In particular embodiments, the side component is webbing with one end or two ends of a buckle.

[0040] In other embodiments, the shape of the side component **108** or **109** is curved, as seen in FIG. 1. Also as shown in FIG. 1, the fabric hook and loop type fastener **111** or **110** runs along substantially the entire side component **108** or **109**, respectively. “Substantially” as used in this particular context refers to covering 75%, 80%, 85%, 90%, 95%, 96%, 97%, 98%, 99% or more of one side of the sling **108** or **109**.

[0041] FIG. 6 shows a non-limiting example a modular bag system with a modular pocket **602** on the back **601** and a cover **603** over the modular pocket **602**. The cover is depicted with stitching **604**.

[0042] The modular pockets that are removably attached to the base accommodate various equipment for the user during activities, such as, hiking, fishing or hunting. Examples of modular pockets, as some are shown in FIG. 4, include but are not limited to, a back modular pocket **401**, a double modular pocket **402**, a modular pocket **403** configured to hold a hemostat or a nipper, a bottle holder modular pocket **404**, a reel modular pocket, a gun modular pocket, a cell phone module pocket **406**, a key modular pocket, a hook and loop (e.g., VELCRO hook and loop) D-ring attachment **405** (which can be moved around to attached carabiners too).

[0043] The number of modular pockets for the system can be determined by the user. The modular bag system can have, for example, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, or 20 modular pockets. The modular bag system can more than 20 pockets, for example, 20-25, 25-30, 30-35, 35-40, 40-45, or 45-50 modular pockets.

[0044] The modular pockets are adapted to be removably attached to the base, for example, attached to the back component, the first side component, the second side component, the first sling component, and/or the second sling component.

[0045] In some embodiments, the modular pocket is adapted to be removably attached to another modular pocket. In these embodiments, the modular pocket can “piggy back” on each other.

[0046] The components of modular bag system are attached to each other via fasteners. Examples of fasteners include, but are not limited to a fabric hook and loop type fastener (e.g., VELCRO hook and loop fastener), buckles, clasps, and D-rings. Webbing can be used as part of a fastener system.

[0047] Examples of buckles include but are not limited to a side release buckle, cam buckles, strap adjusters, center release buckles, slides, and D-rings.

[0048] Thus, for example, when a buckle is used as the fastener, a hook end of the buckle is on a first component of the modular bag system and the catch end of the buckle is a second component of the modular bag system that is adapted to attach to the first component. For example, in an instance of the first sling and the first side of the base, the first sling can have the hook end of the buckle and the first side can have the catch end of the buckle.

[0049] In alternative embodiments, buckles can be used for the modular pockets. In particular embodiments, the fastener is hook end of a buckle adapted to be removably attached to a catch end of a buckle on the one or more modular pockets, or a catch end of the buckle adapted to be removably attached to the hook end on the one or more modular pockets. In particular embodiments, the buckle is a side release buckle. In other particular embodiments, the fastener is a hook end of a clasp adapted to be removably attached to a loop end of the clasp on the one or more modular pockets, or the loop end of the clasp adapted to be removably attached to the hook end of the clasp on the one or more modular pocket.

Fabrics

[0050] Fabrics used for the system are typically lightweight and water resistant or water repellent. One non-limiting example is a Denier coated packcloth, a light weight, extra-duty, water repellent fabric. In various embodiments, the inside padding is a closed-cell foam.

[0051] Additional examples of fabrics that are suitable include but are not limited to ripstop, vinyl, neoprene, Cuben fiber (a high-performance non-woven, extremely strong rip resistance and light weight fabric). Cuben fiber have in the past been used in applications such as yacht sails, airship hulls, kites), and mesh.

Sizes

[0052] As a feature of the present invention, the sizes of the components of the modular pack system are customizable for each user. For example, they can be in a variety of sizes to fit small to large body builds. The pieces are also adjustable to fit loose or snug depending on the preferences of the user and weather, for example, to accommodate more bulky clothing in the winter and less bulky clothing in the summer.

[0053] Exemplary sizes for the components of the base include the following.

[0054] Exemplary sizes for the back component are: Small=10"wx19"h, Medium=12"wx21"h, Extra Large=15"wx24"h.

[0055] Exemplary sizes for the sling component (Style 1 **105**) are: Small=23"L×4.5"W, Medium=26"L×4.5" W, Extra-large=32"L×4.5"W

[0056] Exemplary sizes for the sling component (Style 2) not shown, more of a paddle shape, to accommodate front mods are: Small=18"L×3"W, Medium=20"L×3" W, Extra-large=26"L×4"W.

[0057] Exemplary sizes for the sling component (Style 3 **109**), the curved shaped sling component, are: Small=29"L×2"W, Medium=35"L×2" W, Large=41"×2", Extra-large=50"L×2"W.

[0058] Exemplary sizes for the Side component (Style 1 **106**) are: Small=13"L×4"W, Medium=17"L×5" W, Extra-large=28"L×5"W

[0059] Exemplary sizes for the Side component (Style 2 **108**) the curved shaped side component are the same as the Style 3 sling component: Small=29"L×2"W, Medium=35"L×2" W, Large=41"×2", Extra-large=50"L×2"W.

[0060] The modular pockets (e.g., add on pouches) are in a variety of sizes and shapes to accommodate the intended purpose of the pouches.

[0061] The back modular pocket can be removably attached to the back component of base. In various embodiments, the back modular pocket is piggy-backed, for example, the user can removably attach a small back modular pocket on top of a medium back modular pocket.

[0062] The back modular pockets can be small, medium, large, or extra-large.

[0063] Additional modular pockets can be removably attached to the back component of the base, or can be removably attached to the back modular pocket. These additional modular pockets can also be piggy-backed on the back modular pocket and on each other.

[0064] Additional modular pockets can be removably attached can also be attached on the side mod, and the sling mod (e.g., either or both style 1, 2 & 3).

[0065] Additional modular pockets can be in sizes and configurations, such as double pockets, sheaths to hold hemostats and/or nippers, bottle holder, reel pouch, gun pouch, cell phone and/or keys pouch, a D-ring 'do-da' to attach wherever a user may need d-rings for various gear, a magnetic do da (e.g., little sewn pockets with magnets that attach anywhere via hoop and loop). They can be used to attach flies, fishing lures, hemostat sheaths, or anything that would stick to a magnet.

[0066] Various embodiments of the invention are described above in the Detailed Description. While these descriptions directly describe the above embodiments, it is understood that those skilled in the art may conceive modifications and/or variations to the specific embodiments shown and described herein. Any such modifications or variations that fall within the purview of this description are intended to be included therein as well. Unless specifically noted, it is the intention of the inventors that the words and phrases in the specification and claims be given the ordinary and accustomed meanings to those of ordinary skill in the applicable art(s).

[0067] The foregoing description of various embodiments of the invention known to the applicant at this time of filing the application has been presented and is intended for the purposes of illustration and description. The present description is not intended to be exhaustive nor limit the invention to the precise form disclosed and many modifications and

variations are possible in the light of the above teachings. The embodiments described serve to explain the principles of the invention and its practical application and to enable others skilled in the art to utilize the invention in various embodiments and with various modifications as are suited to the particular use contemplated. Therefore, it is intended that the invention not be limited to the particular embodiments disclosed for carrying out the invention.

[0068] While particular embodiments of the present invention have been shown and described, it will be obvious to those skilled in the art that, based upon the teachings herein, changes and modifications may be made without departing from this invention and its broader aspects and, therefore, the appended claims are to encompass within their scope all such changes and modifications as are within the true spirit and scope of this invention. It will be understood by those within the art that, in general, terms used herein are generally intended as "open" terms (e.g., the term "including" should be interpreted as "including but not limited to," the term "having" should be interpreted as "having at least," the term "includes" should be interpreted as "includes but is not limited to," etc.).

[0069] As used herein the term "comprising" or "comprises" is used in reference to compositions, methods, and respective component(s) thereof, that are useful to an embodiment, yet open to the inclusion of unspecified elements, whether useful or not. It will be understood by those within the art that, in general, terms used herein are generally intended as "open" terms (e.g., the term "including" should be interpreted as "including but not limited to," the term "having" should be interpreted as "having at least," the term "includes" should be interpreted as "includes but is not limited to," etc.). Although the open-ended term "comprising," as a synonym of terms such as including, containing, or having, is used herein to describe and claim the invention, the present invention, or embodiments thereof, may alternatively be described using alternative terms such as "consisting of" or "consisting essentially of."

What is claimed is:

1. A modular bag system, comprising
a base; and

one or more modular pockets,
wherein the base comprises

- (a) a back component, a first side component, a second side component, a first sling component, and optionally a second sling component,
- (b) a first side component and a first sling component,
- (c) a first side component and a second side component,
- (d) a first sling component and a second sling component,
- (e) a sling component configured for wrapping around a torso, or
- (f) a side component configured for wrapping around a torso, and

wherein at least one component selected from the group consisting of the back component, the first side component, the second side component, the first sling component, the second sling component, and combinations thereof, comprises a modular pocket fastener adapted for removably attaching the one or more modular pockets

2. The modular bag system of claim 1, wherein the base comprises:

a back component, a first side component, a second side component, a first sling component, and optionally a second sling component.

3. The modular bag system of claim 2, wherein the back component, the first side component, the second side component, and the first sling component are removably attached together to form a sling style base.

4. The modular bag system of claim 2, wherein the base comprises the second sling component, and the first and second sling components are removably attached to the back component and the first and second side components to form a backpack style base.

5. The modular bag system of claim 1, wherein the base comprises:

the first side component and a first sling component and the first side component and the first sling component removably attaches to each other to form a sling style base,

the first side component and a second side component and the first side component and the second side component removably attaches to each other to form a sling style base, or

the first sling component and a second sling component and the first sling component and the second sling component removably attaches to form a sling style base.

6. The modular bag system of claim 1, wherein the base comprises

a sling component configured for wrapping around a torso to form a waist pack style base, or

a side component configured for wrapping around a torso to form a waist pack style base.

7. The modular bag system of claim 1, wherein the one or more modular pockets are selected from the group consisting of a back modular pocket, a double modular pocket, a modular pocket configured to hold a hemostat or a nipper, a bottle holder modular pocket, a reel modular pocket, a gun modular pocket, a cell phone module pocket, a key modular pocket and combinations thereof.

8. The modular bag system of claim 7, wherein the one or more modular pockets is at least 3 modular pockets.

9. The modular bag system of claim 7, wherein the one or more modular pockets is at least 5 modular pockets.

10. The modular bag system of claim 7, wherein the one or more modular pockets is at least 7 modular pockets.

11. The modular bag system of claim 7, wherein the one or more modular pockets is removably attached to the back component, the first side component, the second side component, the first sling component, and/or the second sling component.

12. The modular bag system of claim 7, wherein the one or more modular pockets is removably attached to another modular pocket.

13. The modular bag system of claim 1, wherein the modular pocket fastener is a fabric hook and loop type fastener, one end of a buckle, one end of a clasp, or one end of a D-ring.

14. The modular bag system of claim 1, wherein the modular pocket fastener is hook end of a buckle adapted to be removably attached to a catch end of a buckle on the one or more modular pockets, or a catch end of the buckle adapted to be removably attached to the hook end on the one or more modular pockets.

15. The modular bag system of claim 14, wherein the buckle is a side release buckle.

16. The modular bag system of claim 13, wherein the modular pocket fastener is a hook end of a clasp adapted to be removably attached to a loop end of the clasp on the one or more modular pockets, or the loop end of the clasp adapted to be removably attached to the hook end of the clasp on the one or more modular pocket.

17. A method of using modular bag system, comprising: providing the modular bag system of claim 1; and using the modular bag system for hunting, hiking, or fishing.

18. The method of claim 17, further comprising assembling the modular bag system.

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